

### AMENDMENTS TO THE CLAIMS:

Please cancel Claims 20-41 and 48 without prejudice or disclaimer of the subject matter recited therein, and amend Claim 1, 2, 4-19, 42, 43, and 45-47 as follows. All claims currently pending in this application, including those not currently being amended, have been reproduced below.

1. (Currently Amended) A method of estimating motion of a moving object, said method comprising the steps of:

capturing at least first and second blurred images of ~~said~~ the moving object, the blur in ~~said~~ the first and second blurred images arising from at least motion blur of ~~said~~ the object, wherein exposure durations of ~~said~~ the first and second blurred images overlap at least partially;

generating an error function, ~~said~~ the error function being a function of ~~said~~ the first blurred image and ~~said~~ the second blurred image;

minimising ~~said~~ the error function; and

estimating ~~said~~ the motion of ~~said~~ the object from ~~said~~ the minimised error function.

2. (Currently Amended) A method according to claim 1, wherein ~~said~~ the images are captured with a time difference between a start time of capture of ~~said~~ the first blurred image and a start time of capture of ~~said~~ the second blurred image.

3. (Original) A method according to claim 1, wherein a start time of capture of the first blurred image and a start time of capture of the second blurred image are concurrent.

4. (Currently Amended) A method according to claim 2, wherein ~~said~~ the exposure duration of ~~said~~ the first blurred image is substantially equal to ~~said~~ the exposure duration of the second blurred image.

5. (Currently Amended) A method according to claim 2 or 3, wherein ~~said~~ the exposure duration of ~~said~~ the second blurred image is a predetermined integer multiple of ~~said~~ the exposure duration of ~~said~~ the first blurred image.

6. (Currently Amended) A method according to claim 1, wherein an exposure pattern (profile) of ~~said~~ the exposure duration of at least one of ~~said~~ the first and second blurred images is non-uniform.

7. (Currently Amended) A method according to claim 6, wherein ~~said~~ the exposure pattern (profile) comprises a triangular profile.

8. (Currently Amended) A method of estimating motion of a moving object, said method comprising the steps of:

capturing at least first and second blurred images of ~~said~~ the moving object, the blur in ~~said~~ the first and second blurred images arising from at least motion blur of ~~said~~ the object, wherein exposure durations of ~~said~~ the first and second blurred images overlap at least partially;

generating an error function, ~~said~~ the error function comprising a cross-correlation term being a cross-correlation between ~~said~~ the first blurred image and ~~said~~ the second blurred image;

minimising ~~said~~ the generated error function; and

estimating ~~said the~~ object motion from ~~said the~~ minimised error function.

9. (Currently Amended) A method according to claim 8, wherein ~~said the~~ error function further comprises an auto-correlation term being an auto-correlation of ~~said the~~ first blurred image.

10. (Currently Amended) ~~Apparatus~~ An apparatus for estimating motion of a moving object, said apparatus comprising:

one or more capture devices for capturing at least first and second blurred images of ~~said the~~ moving object, the blur in ~~said the first and second~~ blurred images arising from at least motion blur of ~~said the~~ object, wherein exposure durations of ~~said the first and second~~ blurred images overlap at least partially;

means for generating an error function, ~~said the~~ error function being a function of ~~said the~~ first blurred image and ~~said the~~ second blurred image;

means for minimising ~~said the~~ error function; and

means for estimating ~~said the~~ motion of ~~said the~~ object from ~~said the~~ minimised error function.

11. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 10, wherein ~~said the~~ images are captured with a time difference between a start time of capture of ~~said the~~ first blurred image and a start time of capture of ~~said the~~ second blurred image.

12. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 10, wherein a start time of capture of the first blurred image and a start time of capture of the second blurred image are concurrent.

13. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 11, wherein ~~said the~~ exposure duration of ~~said the~~ first blurred image is substantially equal to ~~said the~~ exposure duration of the second blurred image.

14. (Currently Amended) ~~Apparatus~~ The apparatus according to claim ~~11 or 12 or 13~~, wherein ~~said the~~ exposure duration of ~~said the~~ second blurred image is a predetermined integer multiple of ~~said the~~ exposure duration of ~~said the~~ first blurred image.

15. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 10, wherein an exposure pattern (profile) of ~~said the~~ exposure duration of at least one of ~~said the first and second~~ blurred images is non-uniform.

16. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 15, wherein ~~said the~~ exposure pattern (profile) comprises a triangular profile.

17. (Currently Amended) ~~Apparatus~~ An apparatus for estimating motion of a moving object, said apparatus comprising:

one or more capture devices for capturing at least first and second blurred images of ~~said the~~ moving object, the blur in ~~said the first and second~~ blurred images arising from at least motion blur of ~~said the~~ object, wherein exposure durations of ~~said the first and second~~ blurred images overlap at least partially;

means for generating an error function, ~~said~~ the error function comprising a cross-correlation term being a cross-correlation between ~~said~~ the first blurred image and ~~said~~ the second blurred image;

means for minimising ~~said~~ the generated error function; and

means for estimating ~~said~~ the object motion from ~~said~~ the minimised error function.

18. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 17, wherein ~~said~~ the error function further comprises an auto-correlation term being an auto-correlation of ~~said~~ the first blurred image.

19. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 10, wherein ~~said~~ means for generating, ~~said~~ means for ~~minimising~~ minimising, and ~~said~~ means for ~~estimation~~ estimation, collectively comprise a computer system incorporating a sequence of program instructions for estimating ~~said~~ the motion using ~~said~~ the images output from ~~said~~ the one or more capture ~~device~~ devices.

Claims 20-41 (Canceled)

42. (Currently Amended) A computer program product including a computer readable medium incorporating a computer program estimating motion of a moving object, said computer program product comprising:

code for capturing at least first and second blurred images of ~~said~~ the moving object, the blur in ~~said~~ the first and second blurred images arising from at least

motion blur of ~~said~~ the object, wherein exposure durations of ~~said~~ the first and second blurred images overlap at least partially;

code for generating an error function, ~~said~~ the error function being a function of ~~said~~ the first blurred image and ~~said~~ the second blurred image;

code for minimising ~~said~~ the error function; and

code for estimating ~~said~~ the motion of ~~said~~ the object from ~~said~~ the minimised error function.

43. (Currently Amended) A computer program product according to claim 42, wherein ~~said~~ the images are captured with a time difference between a start time of capture of ~~said~~ the first blurred image and a start time of capture of ~~said~~ the second blurred image.

44. (Original) A computer program product according to claim 42, wherein a start time of capture of the first blurred image and a start time of capture of the second blurred image are concurrent.

45. (Currently Amended) A computer program product according to claim 43, wherein ~~said~~ the exposure duration of ~~said~~ the first blurred image is substantially equal to ~~said~~ the exposure duration of the second blurred image.

46. (Currently Amended) A computer program product according to claim 43 or 44, wherein ~~said~~ the exposure duration of ~~said~~ the second blurred image is a predetermined integer multiple of ~~said~~ the exposure duration of ~~said~~ the first blurred image.

47. (Currently Amended) A computer program product according to claim 42, wherein an exposure pattern (profile) of ~~said~~ the exposure duration of at least one of ~~said~~ the first and second blurred images is non-uniform.

Claim 48 (Canceled)